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November 22, 2002

EX PARTE – Via Electronic Filing

Ms. Marlene Dortch
Secretary
Federal Communications Commission
The Portals
445 12th Street, S.W.
Washington, DC 20554

Re: CC Docket Nos. 01-338, 96-98, 98-147

Dear Ms. Dortch:

On November 21, 2002, Rob Curtis, Tom Koutsky, and George Ford of Z-Tel and Tim Simeone and I met with Commissioner Martin. Later in the day, Messrs. Curtis, Koutsky, and Ford and I met with Chief Economist Simon Wilkie and Don Stockdale of the Office of Plans and Policy. Messrs. Curtis and Koutsky and I then met with Jordan Goldstein, Commissioner Copps's senior legal advisor. We distributed and discussed the attached documents at these meetings, along with some others that had previously been filed in these dockets.

In accordance with FCC rules, a copy of this letter is being filed in the above-captioned dockets.

Sincerely,

/s/
Christopher J. Wright
Counsel to Z-Tel Communications, Inc.

A Five-Step Plan for Building Wholesale Switching and Transport Alternatives

By Z-Tel Communications, Inc.

Summary

At this time, new entrants have no effective choice other than unbundled access to the incumbent LEC loop, switching and shared transport network (through UNE-P) to provide mass-market services. However, the question remains, "For how long?"

Z-Tel believes that unbundled access to switching and the UNE-P is needed until *vibrant, effective, and efficient wholesale alternative providers* of mass-market switching and transport services are in place. Chairman Powell has stated that ultimately he wants "an efficient wholesale market" – and, indeed, the presence of such competitive wholesale providers would lay the groundwork for ultimate deregulation.

Proposals to limit or eliminate UNE-P have focused entirely on "triggers" for when a CLEC should be expected to "self-provision" their own switch. Z-Tel believes this approach is misguided and will not create circumstances in which ultimate deregulation can take place.

Because of the sunk cost nature of local switching and dedicated transport, economics teaches that there can only be a few viable providers of DS0 switching and transport services in a market. Once that level of deployment is reached, further application of "self-provisioning" triggers is pointless as additional deployment by firms is precluded. Thus, some CLEC always will be impaired in their ability to provide the services its seeks to offer. Consequently, without vibrant wholesale providers, switchless CLECs will have no choice but to exit the market. The only way to determine whether these entrants are harmed without access to UNE-P is for regulators to examine whether a vibrant, effective and efficient system of competitive wholesale providers of mass-market, DS0 switching and shared transport exists. Only under these conditions can the finding of impairment be dismissed generally.

In this White Paper, Z-Tel proposes a *complete* framework for addressing these issues:

<u>The Five Step Plan for Building Wholesale Switching and Transport Alternatives</u>

Step 1:	**Equal Access Requirements for Loop Provisioning**
Step 2:	**Competitive Wholesale Interoffice Transport**
Step 3:	**Switch-Based CLEC Transfer from ULS/UNE-P**
Step 4:	**Competitive Analysis of Wholesale Providers by State Commissions**
Step 5:	**UNE-P Transition to Wholesale Providers**

A key aspect of the Five Step Plan is to make sure the Steps are completed *in sequence* before proceeding to the next Step. The Plan also leverages the fact-finding and evidence-gathering expertise of the State commissions. Tools like mutual discovery, depositions, and cross-examination – not utilized by the FCC in the *Triennial Review* – are crucial for determining the truth. The principal judge of an ILEC's progress should be the State commission, which is closest to the facts and is in the best position to decide whether the ILEC has indeed passed.

Emergence of alternative providers of wholesale mass-market switching and transport will, in the long-term, support the entry of a myriad of innovative telecommunications firms. Only then will the complete promise of the 1996 Act be fulfilled for mass-market residential and small business consumers.

A Five-Step Plan for Building Wholesale Switching and Transport Alternatives

By Z-Tel Communications, Inc.

> "We must also provide incentives for more effective and sustainable competitive entry through our network access policies by providing incentives to new entrants and incumbents to produce an efficient wholesale market . . ." FCC Chairman Michael Powell, Testimony before the Senate Commerce Committee, July 30, 2002.

> "[T]he FCC does not always have all the right answers. . . . I am sympathetic to the requests made by several states, including Florida, that if the FCC chooses to establish geographic, more granular unbundling standards that we adopt broad rules that will afford state commissions some flexibility to customize the level of granularity based on market conditions within the states. In general, states are better positioned to conduct fact-specific inquiries." Remarks of FCC Commissioner Kevin J. Martin, SEARUC Conference, June 3, 2002.

> "The Telecom Act is very much a federal activity, using the term 'federal' in the historical context of state and national governments working together. The law instructs us to work together. Resource constraints make it prudent to do so. Plus there is such a vast array of talent, experience and judgment in the state regulatory bodies that we would be just plain dumb to avoid coordinating our efforts." Remarks of FCC Commissioner Michael J. Copps, NARUC, July 29, 2002.

The pleadings in the FCC's *Triennial Review* have demonstrated that carriers that seek to serve mass-market customers at this time have no effective choice other than unbundled access to the incumbent LEC loop, switching and shared transport network (through UNE-P) to provide service. However, the question remains, "For how long?"

Because of the inherent economics of the mass market, Z-Tel believes that unbundled access to switching and shared transport (through UNE-P) are needed until a system of *vibrant, effective, and efficient wholesale providers* of mass-market switching and shared transport services are in place. Chairman Powell has stated that ultimately he wants "an efficient wholesale market" – and, indeed, the presence of such a market would lay the groundwork for ultimate deregulation. Only when a competitive providers of switching and shared transport are in place can policymakers legitimately conclude whether any and all potential requesting carriers have sufficient alternatives to UNE-P so that those carriers may not be impaired in their ability to provide mass-market service.[1]

The presence of vibrant, effective and efficient wholesale markets is also important to laying the foundation for ultimate forbearance of Bell company unbundling requirements. Recognizing the need for mass-market entry, Congress *specifically* listed "unbundled" loops, switching and transport in the Section 271 "competitive checklist."[2] While the focus of the FCC's *Triennial Review* has been upon application of the section 251(d)(2) "necessary and impair" standard, even for "de-listed" elements, Bell companies must still unbundle loops, switching and transport under section 271 if they want to provide long-distance service. The FCC cannot forbear from any item of the section 271 checklist until it determines that those requirements "have been fully implemented."[3] Z-Tel has argued that to fulfill Congressional intent, the FCC must ensure that a vibrant, effective and efficient wholesale market for an element exists before forbearing from any checklist requirement.

Focusing exclusively on whether "self-provisioning" of switching is practicable does not lay the groundwork for ultimate deregulation, nor does "self-provisioning" ensure that impairment is absent for all new entrants. While all CLECs have the legal right to UNEs under Section 251, not all CLECs have the financial wherewithal or customer base to justify

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1 Throughout this analysis, Z-Tel focuses upon what it refers to as "the mass market," a market definition utilized by the FCC, *inter alia*, in the *UNE Remand Order* when it ordered access to unbundled switching and shared transport. The distinction between DS0 mass market (whose principal consumers are residential and small business customers) and high-bandwidth products (consumed by large businesses) has been documented in Z-Tel and other party comments in the record. Mass-market customers place significant substantive, and distinct demands upon service providers, including the ability to service high churn, reluctance to enter into term contracts, and high volumes. It is critical not to confuse (as the ILECs do) a CLEC's ability to serve high-bandwidth, digital customers with a CLEC's ability to serve the mass-market customers.

2 47 U.S.C. 271(c)(2)(B)(iv)-(vi).

3 47 U.S.C. 160(d).

the sizeable sunk investments required to self-provision switching and shared transport networks. As discussed in *Triennial Review* pleadings, separate barriers to entry exist for both switching and transport services. Furthermore, the sunk cost nature of switching and transport equipment necessarily constrains the number of firms that can profitably serve a market as a vertically-integrated carrier. Economics teaches that because of these sunk costs of local entry, there will only be few switch-based, mass-market providers of DS0 and shared transport services.[4] The only situation under which it is possible for a regulator to conclude that *any* requesting carrier (no matter how large or small) can provide mass-market service without access to ULS/UNE-P is when that requesting carrier can acquire the requisite "unbundled" elements from effectively competitive wholesale providers.

As a result, transition proposals that focus solely upon whether the FCC should require CLECs to self-provide switching and shared transport services miss the mark. Switches and transport networks are sunk assets – and economics says that only "so many" sunk assets can be efficiently deployed.[5] Proposals that require every CLEC – regardless of their particular condition – to incur millions of dollars in sunk investments ignores the requirements of the 1996 Act and the fundamental economics of the local mass-market. Moreover, these proposals do not lay the groundwork for ultimate deregulation and forbearance. As such, self-provisioning proposals are but a stopgap, band-aid approach to the issue.

This White Paper proposes a *complete* framework for regulators. It proposes a Five Step Plan for Building Wholesale Switching Markets. Emergence of wholesale mass-market switching capacity will, in the long-term, support the fluid entry and exit of myriad innovative telecommunications firms.

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4 Since switchless CLECs are entitled by law to a carrier-specific section 251(d)(2) "impairment" analysis, if no wholesale market alternative exists, denying those CLECs ULS/UNE-P would force them to exit the market. Such a policy, particularly if applied to small businesses, would violate section 251, 257 and the Small Business Act. On the other hand, granting those CLECs rights to ULS/UNE-P would result in perpetual unbundling.

5 J. Sutton, *Sunk Cost and Market Structure*, Ch.3 (1991).

A key aspect of the Plan is to make sure the steps are completed in sequence before proceeding to the next step. Z-Tel believes that the principal adjudicator of the ILECs' progress should be the State commission, which is closest to the facts and is in the best position to judge whether the ILEC has indeed passed. Pursuant to section 251(d)(3), State commissions continue to retain authority to implement interconnection and access regulations pursuant to state law.

THE FIVE-STEP PLAN

As discussed above, it is key that the Five Steps be performed in sequence. There should be no "skipping ahead" or "social promotion." The judge as to whether a step has been completed is the State commission.

Step 1: Equal Access Requirements for Loop Provisioning

Without UNE-P, entrants face a classic barrier to entry in the mass market – the costs and requirement of expensive manual provisioning impose a clear barrier to an entrants ability to enter this market. The competitive impact of this barrier is underscored by the ILEC's ability to access those loops through an inexpensive mechanized process. As a result, this entry barrier clearly qualifies under *USTA* as impairment.

Without reform of the loop provisioning process, UNE-Loop entrants are at a perpetual, non-trivial cost disadvantage. In a recent *ex parte*, AT&T conservatively estimated this cost disadvantage to be approximately $7 per line. This $7 represents a 30% cost disadvantage for the CLEC relative to the ILEC, and is not a cost "disparit[y] faced by virtually any new entrant in any sector of the economy" because it persists regardless of scale.[6] This cost-disparity can be expected to reduce CLEC's output by

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6 *USTA v. FCC*, 390 F.3d 415, 426 (D.C. Cir. 2002). The cost disparity is computed using retail expenses per line of $23 ($18 expenses and $5 depreciation). *See* T. R. Beard and C. C. Klein, *Bell Companies as Profitable Wholesale Firms: The Financial Implications of UNE-P*, Phoenix Center Policy Paper No. 17 (November 2002), available at www.phoenix-center.org and www.telepolicy.com.

31%, a considerable figure.[7] Moreover, the loop access barrier means that CLECs do not view UNE-P and UNE-L as substitute entry strategies.[8]

This loop access barrier to entry is faced by potential wholesale providers of switching capacity. Moreover, the hot-cut barrier to entry is entirely within the ILEC's unique control and the inefficient process imposes costs upon new entrants – as a result, they cannot be addressed simply through a regulatory decision to lower the ILEC price for this process.

The loop access barrier can be overcome by loop "equal access" policies. Consider the current interexchange PIC change process – competition is vibrant in the long-distance industry because competing carriers can utilize mechanized processes to sign-up customers. That mechanized PIC change process did not occur naturally – regulators implemented equal access policies and supervised the development and price of the PIC change process. The same should be done for loop access.

On October 31, 2002, CompTel and PACE outlined a set of loop equal access parameters. Z-Tel believes that those parameters are crucial to the

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7 Z-Tel has argued that any material reduction in a CLEC's output constitutes "impairment" under section 251(d)(2). The reduction in output is calculated utilizing a simple Cournot model of competition where a) the two firms are identical and b) retail margins are 35%. (For a discussion of what constitutes the Cournot model of competition, *see* Sutton, *supra* note 5.) In this benchmark case, the two firms split the market evenly with 50% market share each. A 30% cost disadvantage for one of the two firms, under these conditions, would reduce the market share of the more costly firm from 50% to 35% (a 31% reduction in market share) in addition to raising industry price and profit margins. In other words, the output of the higher-cost firm is reduced to eliminate the impact of wasteful duplication, and price increases to the detriment of consumers. This large reduction in the output of the higher-cost firm illustrates, however, that the firm is impaired in its ability to provide service without access to factor that maintains symmetric costs with its rival (i.e., unbundled switching in the present context).

8 See T. R. Beard and G. S. Ford, Make-or-Buy? Unbundled Elements as Substitutes for Competitive Facilities in the Local Exchange Network, (September 2002) (filed by Z-Tel in CC Docket Nos. 01-338, 96-98, and 98-147); T. R. Beard, R. B. Ekelund Jr., and G. S. Ford, Pursuing Competition in Local Telephony: The Law and Economics of Unbundling and Impairment, Unpublished Manuscript (Filed by Z-Tel in CC Docket No. 01-338, 96-98, and 98-147).

development of wholesale mass-market alternatives for CLECs and constitute Step 1 in the Five Step Plan.

To begin Step 1, ILECs should first file a petition with the appropriate State commission that it has satisfied all of the following parameters:

- **Price** - the charge for loop provisioning should be in the range of $1 to $2, which is commensurate with the true cost of PIC changes. Internal provisioning costs incurred by the CLEC also must be considered. An inefficient ILEC provisioning process imposes additional internal provisioning costs on the CLEC that **are not** remedied simply by the ILEC giving a "price break" for that inefficient ILEC process.
- **Reliability** - loop migrations must be performed correctly and within a designated timeframe 99 percent of the time.
- **Time** - Loops should be provisioned in 15 minutes, the time it takes to provision long-distance PIC changes. Benchmark limits on service interruption should be enforced.
- **Scalability** - at a minimum, ILECs must be able to perform hot cuts sufficient to turn over at least 5% of the ILEC's mass-market lines in a state each and every month.

The Scalability inquiry deserves special mention. Much has been made by unsubstantiated claims by the ILECs that their current manual processes are sufficient to scale. That is not the case. For example, SBC boasts that it believes it can provide one million manual hot-cuts per year in the five-state Ameritech region. While that number sounds impressive, it is not. There are 19.1 million SBC/Ameritech lines in the Ameritech region. Even assuming a relatively low rate of monthly churn, if CLECs were limited to only one million hot-cuts per year, the *maximum* CLEC market share of those lines would be 7%. *CLEC market share would be capped at this low level; and over 90% of mass-market consumers would be denied the benefits of competition.* ILEC hot-cut capacities must be ramped up considerably beyond today's levels and expectations – the New York Commission estimates that a 4400% increase in Verizon's capacity would be needed.

The filing should contain supporting documentation for every central office in which the ILEC seeks to satisfy Step 1. The ILEC should provide open access to its provisioning records in all of those offices for the year prior to the petition. All certified CLECs in the state should receive notice of the filing and what offices the filing pertains to. CLECs should be presented the opportunity to rebut the ILEC petition through discovery, take depositions, put forward witnesses, and conduct cross-examination. The ILEC has the burden to prove, by preponderance of evidence, that it complies with Step 1. After conducting a complete proceeding, the State commission should issue a preliminary decision as to whether the ILEC has complied with all four-loop equal access parameters included in Step 1.

Once a State commission has certified compliance with the loop equal access parameters, the ILEC will be permitted to proceed to Step 2. To provide a real-world check on repeated ILEC petitions, in the event the State commission finds the ILEC not to have complied with all of the loop equal access parameters, the ILEC should not be permitted to re-file any Step 1 petition in that state for at least one year.

Step Two: Competitive Wholesale Interoffice Transport

The emergence of a vibrant system of competitive, wholesale providers also depends upon the ability to transport mass-market traffic from the central office to the wholesale provider's switch.
A vibrant, effective and efficient wholesale switching market requires that the non-ILEC wholesale switching providers not be dependent upon ILEC-provided transport services – even if the ILEC offers transport at TELRIC rates. Actual, real alternatives for the needed routes to the wholesale switching provider's switch are imperative. Otherwise, the ILEC would be able to leverage market power in interoffice transport (such as denying or delaying delivery of adequate facilities) to gain advantage or suppress competition from these alternative providers.

As a result, while there must be continued provision of interoffice dedicated and shared transport at TELRIC rates in the interim, Step 2 involves completion of a competitive interoffice transport analysis by the State commission. On October 8, 2002, CompTel and ALTS proposed a framework for analyzing the competitive availability of unbundled transport by the State commission. The CompTel/ALTS proposal puts forward granularity test that the State commission would perform for unbundled dedicated transport. A similar analysis should be undertaken with regard to shared transport.

Step Two of the Five Step Plan is a decision by the State commission in a granular, market-specific competitive analysis that CLECs are not impaired without access to unbundled dedicated and shared transport where the ILEC believes it should not offer unbundled local switching.

Step Three: Self-Provisioning of Switching by Carriers with Already-Deployed Switches.

Once an ILEC has satisfied Steps 1 and 2, it may choose to proceed with Step 3 – the first step that involves restricting access to UNE-P.

In particular, Step 3 requires that the ILEC provide a *prima facie* case that with regard to a particular central office, it has satisfied all of the requirements of Steps 1 and 2. If the State commission agrees, any entrant that *already has* collocated and deployed in the central office the necessary equipment, software and facilities to switch DS0 circuits should be required, where cost-effective and non-customer-effecting, to begin to migrate their UNE-P mass-market DS0 lines to that switch.

Entrants that have already deployed switching and transport facilities in a central office (probably to serve large business or high-bandwidth customers) face a different set of "impairment" questions than switchless CLECs. There is a certain "minimum viable scale" for switch deployment that certainly varies according to the types of services a carrier wants to provide out of that switch. It is therefore appropriate to test the capabilities of mass-market loop provisioning and competitive transport providers with carriers that have already deployed switches in the relevant offices.

That said, Z-Tel does not wish to minimize the issues involved in providing DS0, mass-market services over a switch that originally was established to serve DS1 and above customers. In this proceeding, WorldCom recently has set forth a list of these issues that need to be taken into account. As WorldCom proposed, the State commission should determine whether such migration is cost-effective and non-customer-affecting.

If in the end the ILEC cannot satisfy the volumes the switch-based entrant requires – or if the ILEC fails in its loop provisioning for three consecutive months, for any reason – that ILEC must revert back to Step 1. To avoid the incentive for pre-mature ILEC filings, if an ILEC reverts back to Step 1 it should be required to wait at least six months before re-filing a Step 1 petition.

The purpose of Step 3 is to spur the deployment of non-ILEC sources of mass-market switching and shared transport capability. The fact that a switch may be deployed by a CLEC does not mean that the switch is being utilized to service mass-market DS0 consumers. Z-Tel believes that the ILEC proves its *prima facie* case of compliance with Steps 1 and 2 is made, those improvements should be "put to the test" by CLECs, in a supervised setting that recognizes the potential for failure.

Z-Tel believes Step 3 will promote the transformation of carriers currently with switches into wholesale providers of mass-market switching capacity. In the telecommunications industry, efficient systems of wholesale providers have tended to appear when existing facilities-based retail carriers seek to sell their excess capacity to retail competitors. AT&T, MCI and Sprint all have wholesale products that cater to the needs of long-distance resellers (and, on occasion, one another). Over time, wholesale-only carriers (Williams, Global Crossing, and the original WorldCom) tried to enter the market as well – and their business plan centered on being a "neutral" provider of network capacity. The FCC's unbundling rules can promote a similar dynamic for wholesale mass-market switching capacity.

Moreover, taken together, Steps 1, 2 and 3 provide appropriate incentives on all parties. If ILECs truly wish to be rid of ULS/UNE-P, they have an incentive to complete Steps 1 and 2 and resolve loop and transport impairment issues. At the same time, Step 3's requirement that switch-based CLECs begin to migrate, where cost-effective and non-customer affecting, would assure the ILEC that those new processes will be utilized.

Moreover, the migration by switch-based CLECs would provide a real-world ramp-up and "test" as to whether the ILEC's provisioning processes are indeed capable of handling sufficient volumes without disrupting customer service.

An ILEC completes Step 3 when the State commission determines in a particular central office that the migration has been completed seamlessly and cost-effectively, and that the ILEC has sufficient capabilities to handle expected growth and requirements of switch-based CLEC in the market.

Step 4: Analysis of System of Competitive Wholesale Switching and Shared Transport Providers

The first three Steps lay the groundwork for the emergence of an efficient system of competitive wholesale providers of DS0 switching and shared transport. Once that groundwork is laid, either carriers required to migrate DS0 lines to their own switch will develop wholesale products to take advantage of sunk cost economies, or new, wholesale-only providers will set up shop.

Step 4 consists of a competitive analysis of this nascent wholesale system by the State commission. Once Step 3 is completed, an ILEC may choose to petition the State commission for a determination that a vibrant, effective and efficient system of wholesale competitive providers of mass-market DS0 switching and shared transport exists in any particular central office.

The tools of competitive market analysis in merger review are well known. The FCC used a similar analysis in dominant carrier proceedings, and State commissions perform similar studies for alternative regulation plans. The Step 4 analysis must make the following findings:

1. The State commission will review the availability of wholesale switching and shared transport services for DS0 (aka "mass market") circuits where those circuits are obtained from the ILEC as unbundled local loops.

2. The State commission will review this availability separately for each individual central office. Each central office will be the subject of a separate analysis and determination.

3. The State commission must find that there are at least five non-ILEC carriers in the central office that meet the following criteria:

    a. The five must provide a substitutable wholesale service for DS0 switching and transport interconnected with loops, with particular regard to geographic reach and capacity;
    b. The five must have sufficient personnel and resources to operate their networks effectively;
    c. The five must provide a stable platform over which CLECs can rely to deliver reliable mass-market telecommunications services to customers;
    d. Each of the five must provide switching to at least 100 DS0s in the relevant central office. (This requirement provides a "real-world" check that the independent carriers have actually performed cut-overs and switching services out of the office and therefore can be expected to do so successfully in the future.); and
    e. The five must be financially stable and likely to remain in the market.

4. Sufficient switching and shared transport capacity from these non-ILEC, substitute sources of supply is available for sale to meet the demands of retail CLEC.

5. CLEC customers can be transferred seamlessly from an incumbent's switching capabilities to the independent sources of supply of mass-market switching and shared transport. Without the ability to execute seamless transfers, however, that non-ILEC provider is not a viable competitive option for CLECs to use in serving their existing customers in the market.

6. Like the IXC PIC change process, transfers from ILEC switching and shared transport platform to non-ILEC switching and shared-

transport platform can be done at cost-effective and cost-based rates.

Step 4 is the heart of the Five Step Plan. The focus is upon the presence of *five independent providers of substitute wholesale switching and transport services for DS0, mass-market services.* According to modern postulates of game theory, five firms are required to ensure *ex ante* that a market be effectively-competitive:

> If there are less than five competitors, they will all find it profitable to collude explicitly; if there are more than five competitors, it becomes more advantageous to stay out of a cartel formed by others, that is, the position of an outsider becomes relatively more attractive as the number of competitors increases.[9]

It also is important that the products and services sold by these firms be highly substitutable.[10]

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9 Louis Phlips, *Competition Policy: A Game Theoretic Perspective* 23-24 (1995), discussing R. Selten's paper, "A Simple Model of Imperfect Competition where Four are Few and Six are Many," 2 Int'l J. of Game Theory, 141-201 (1973). The foundation for this observation is its focus five competitors providing substitutable, relatively homogenous products and services. As a result, this requirement must be distinguished from other proposals that simplistically "count" the number of competitive entrants, without considering the products or services that those entrants actually provide. Phlips states later that his observation "is very different from the one which says that the more competitors there are, the more difficult it is to enforce an agreement ... since cartels appear as non-cooperative Nash equilibria with perfect and complete information. *Id.* Using five firms as a trigger rather some smaller number also considers the softer price competition that occurs among highly leveraged firms. *See* J. A. Chevalier, "Capital Structure and Product-Market Competition: Empirical Evidence from the Supermarket Industry," 85 Amer. Econ. Rev. (1995); *see also* Stephen Martin, *Advanced Industrial Economics* Ch. 5 (1993). Selten's result is quite general, and holds even with incomplete information. *See* P.C. Cramton and T.R. Palfrey, "Cartel Enforcement with Uncertrainty about Costs," 31 Int'l Econ. Rev. 17-47 (1990).

10 Indeed, homogeneity is the assumption of the game theory model. Phlips, Chs. 2, 4 (showing result holds true with incomplete information); *see also* Stephen Martin, *Advanced Industrial Economics*, Ch. 5 (1993). Despite this, a standard antitrust analysis utilizing the DOJ/FTC Merger Guidelines would *still* regard a market of five symmetric firms as being "highly concentrated," with an HHI of 2000.

State commissions should conduct this wholesale competitive market analysis. The State commission examination should be on the record, with opportunity for discovery, depositions, cross-examination, and hearings. Adequate notice should be provided to all certified CLECs in the state that an ILEC has petitioned the State commission for such a proceeding. ILECs have the burden of proof. ILECs should be required to file with the State commission and make available to all parties all data that they utilize in their case and argument.

If a State commission finds in the proceeding that the above criteria are not satisfied with regard to any central office, the ILEC will not be permitted to file an application to re-examine those criteria in that central office for at least two years. (The State commission may establish an even longer period.) This requirement mitigates the incentive for ILECs to drain State commission resources with repeated, spurious proceedings. In the intervening time, for each central office where the criteria was not satisfied, the ILEC will be required to continue to provide ULS and UNE-P to mass-market entrants.

If the State commission finds that the criteria have been satisfied, the ILEC will proceed to Step 5: the transition process.

Step 5: ULS/UNE-P Transition Process

Once the State commission makes all of the findings required by Step 4, the following process should be utilized to ensure a seamless migration to this nascent system of competitive wholesale providers of switching and shared transport. Again, State commissions have a strong supervisory role at all of these stages:

1. Within six months of providing all registered CLECs in the state notice of completion of Step 4 in any particular central office, CLECs that have UNE-P lines in that office should file proposed transition plans. The State commission will have the authority to accept that transition plan or grant exceptions to its Step 4 determination in the event the affected CLEC shows that it does

not have an effective, non-ILEC choice for the particular office in question.

2. While transition plans are in progress, the ILEC will continue to be obligated to provide UNE-P to CLECs, even for new customers or change orders.
3. After approval of any transition plan, if the ILEC fails in its obligations to provide seamless, cost-effective cut-overs, the State commission shall suspend all migration and transition requirements in the affected office for at least six months while those problems are resolved.
4. The third time an ILEC fails in its transition/migration obligations in a particular central office or metropolitan area, the ILEC reverts to Step 1 for that office and it has an obligation to provide UNE-P to all requesting carriers in that metropolitan area until it finally completes all of the Steps.

After Step 4 is completed, CLECs may petition the State commission for a determination that the wholesale market in any central office is no longer effective or in place. If the State commission grants such a request, all Step 5 transition plans will be suspended in that office until the ILEC proves to the contrary.

Supervision of the transition to wholesale providers is crucial because ILECs will have an undeniable and strong incentive to keep as much traffic "on their network" as possible. Indeed, if alternative sources of supply for switching and shared transport develop, the ILEC incentive to provide unbundled loops will be substantially lower than its incentive to provide UNE-P today. As a result, the loop equal access requirements and competitive transport conditions of Steps 1 and 2 must remain in place. If the ILEC falls out of compliance with either requirements in a central office or metropolitan region for more than three consecutive months, UNE-P immediately becomes available to all requesting carriers in that entire region, and the ILEC must once again re-commence the Five Step Program.

Building Mass-Market, Wholesale Alternatives to UNE-P

Robert Curtis
George S. Ford
Christopher J. Wright
Thomas M. Koutsky
Z-Tel Communications, Inc

November 21, 2002

UNE-P…The Future

- Consumers only now beginning to see choice – 8MM UNE-P lines to date
- New and innovative service providers like Z-Tel account for 43% of all UNE-P lines
- Consumers don't demand network facilities – service providers do.
- Independent UNE-P carriers serving mass market demand *and will migrate* to independent, non-ILEC sources when those non-ILEC sources can provide seamless access in sufficient quantities
- The solution is to develop **vibrant, effective and efficient wholesale, non-ILEC alternatives**
- The presence of Z-Tel and UNE-P **facilitates** wholesale development – and public policy can help
- No rational CLEC *prefers* to obtain network capacity from an unwilling supplier

A Five Step Plan to Wholesale Alternatives

Step 1. **Resolve loop access impairment**
Step 2. **Competitive transport markets**
Step 3. **Migration by Switch-Based CLECs**
Step 4. **Wholesale competitive analysis**
Step 5. **Transition by all carriers**

- Steps must be taken "in order"
- Focus on mass-market DS0 switching/shared transport
- State commission fact-finds and adjudicates each step
- Avoid pitfalls of 271 process (notice filings, social promotion)
- Establish path to ultimate deregulation

Step 1: Resolve Loop Impairment

- State commission must determine that ILEC can provide Equal Access to DS0 loops. At a minimum, Equal Access Requires:
  - Cost-effective (ILEC NRC and CLEC internal cost must approximate PIC change costs)
  - Reliable
  - Timely, and
  - Scalable manner
- Wholesale market for mass-market local switching/transport cannot develop without efficient and effective access to DS0 loops
- Manual process amounts to classic barrier to entry because the cost is too high
  - AT&T conservatively estimated $7/mth per line difference
  - Result: 31% diminution of CLEC market share
- Scale matters
  - Volume of hot-cuts not tested in 271 proceedings
  - SBC's "offer" of 1 million hot-cuts per year in Ameritech region would limit CLECs to <8% market share

Step 2: Competitive Transport Markets

- Wholesale providers must not be dependent upon ILEC-provided interoffice transport

- CompTel/ALTS test for competitive alternatives to interoffice transport should be completed by State commission *before* ILEC permitted to proceed to Step 3

- Analysis must be undertaken separately for dedicated and shared transport

Step 3:
Switch-Based CLEC Migration

- ILEC makes *prima facie* showing to state commission of satisfaction with Steps 1 and 2 with regard to **particular central office**
- State commission examines and, after opportunity for discovery and hearings, makes preliminary determination of ILEC compliance – then…
- Entrant that has **already** collocated and deployed in that central office the necessary equipment, software and facilities to switch DS0 circuits should be required, where cost-effective and non-customer effecting, to begin to migrate DS0 UNE-P lines to that switch
- State commission supervises migration – if ILEC fails in provisioning, reversion back to Step 1
- Benefits
  - Ramp up and test ILEC loop provisioning systems in real-world setting
  - Encourage development of non-ILEC sources of supply

Step 4: Wholesale Analysis

- Once all Step 3 migrations completed, ILEC may for that central office petition State commission for determination that a vibrant, effective and efficient wholesale alternatives for DS0 switching and transport exists in that office

- State commission competitive analysis:
  - At least ***five*** non-ILEC providers that provide substitutable wholesale service for DS0 switching and transport interconnected with ILEC loops are present
  - The five wholesale providers have sufficient personnel and resources to provide wholesale service and each have done so for at least 100 DS0s in that office
  - Wholesale providers have sufficient capacity to serve retail CLEC demand
  - Transfer to wholesale providers can be accomplished seamlessly and cost-effectively

- Acknowledges that:
  - not all CLECs must or should vertically integrate
  - not all CLECs can or will attain minimum viable scale
  - not all CLECs can absorb sunk costs necessary to entry

- Existence of wholesale is essential to final goal of deregulation and forbearance

Step 5: UNE-P Transition Process

- CLECs file transition plans with State commission within six months of completion of Step 4 in a CO
- State commissions accept plans or grant exceptions
- ILEC obligated to provide UNE-P while transitions in progress
- If during transition ILEC fail to provide seamless, cost-effective cutovers, State commission shall suspend all transition for at least six months
- Three Strikes: third time an ILEC fails in its obligations in any CO for a third time, ILEC immediately reverts back to Step 1 and must provide UNE-P

Sustainability

Ensuring development of system of vibrant, effective and efficient wholesale providers of DS0 switching and transort…

- Addresses – and solves – barriers to entry mass-market entrants face (like hot-cuts and transport)
- Recognizes economic reality that not all CLECs can (or should) be vertically-integrated
- Does not sacrifice consumer welfare benefits from retail service providers
- Leverages State commission expertise and granular, fact-finding abilities
- Provides path for ultimate deregulation and "full implementation"